

Application No. 09/996,681

### **REMARKS**

Applicants have carefully considered the rejections of the Examiner in the present application. In light of this consideration, Applicants believe that the claims remain allowable. Applicants respectfully request reconsideration of the rejection of the claims now pending in the application.

In the first Office Action of January 2, 2004, claims 1 and 3 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,117,347, to Ishida (hereinafter Ishida). Claim 21 is rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,302,554, to Kashiwa et al. (hereinafter Kashiwa). Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Ishida in view of U.S. Patent No. 4,726,879, to Bondur et al. (hereinafter Bondur). Claims 4-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ishida in view of U.S. Patent No. 6,184,570, to MacDonald, Jr. et al. (hereinafter MacDonald). Claims 7-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ishida in view of U.S. Patent No. 6,363,201, to Sherrer, et al. (hereinafter Sherrer). Claim 22 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kashiwa in view of Bondur. Claims 23-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kashiwa in view of Sherrer. Claims 10-20 were indicated as allowed.

In the second Office Action of June 9, 2004, claims 1 and 3 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,117,347, to Cronin et al. (hereinafter Cronin). Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Cronin in view of U.S. Patent No. 4,726,879, to Bondur et al. (hereinafter Bondur). Claims 4-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Cronin in view of U.S. Patent No. 6,184,570, to MacDonald, Jr. et al. (hereinafter MacDonald). Claims 7-9 are

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rejected under 35 U.S.C. §103(a) as being unpatentable over Cronin in view of U.S. Patent No. 6,363,201, to Sherrer, et al. (hereinafter Sherrer).

In this third Office Action of September 28, 2004, claim 1 is rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,515,309, to Tohyama et al. (hereinafter Tohyama). Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Tohyama in view of U.S. Patent No. 4,726,879, to Bondur et al. (hereinafter Bondur). Claims 3-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tohyama in view of Bondur and in further view of U.S. Patent No. 6,184,570, to MacDonald, Jr. et al. (hereinafter MacDonald). Claims 7-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tohyama in view of Bondur and in further view of U.S. Patent No. 6,363,201, to Sherrer, et al. (hereinafter Sherrer).

Claims 10-26 were previously indicated and continue to be indicated as allowed. The Applicants wish to express their appreciation to the Examiner for this indication of allowable subject matter.

Tohyama provides for a LED array chip comprising a semiconductor substrate having a front surface and a side surface. The first surface and the front surface come together at an end of the chip to define an end portion of said semiconductor substrate that has an acute angle between the first surface and the front surface. The end of the chip defines an outermost dimension of the chip. The first surface extends further away from the front surface than the diffusion depth of the light emitting elements. A method of manufacturing an LED array chip includes the steps of: forming grooves between adjacent LED arrays of the plurality of LED arrays, each of the grooves having opposing side walls each of which makes an acute angle with the front surface; and dicing the

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semiconductor wafer except for the opposing side walls of each of the grooves to separate the plurality of LED arrays into individual LED array chips.

Tohyama teaches "a separation groove 7 having a cross section of a reverse mesa shape" (please see column 6, lines 66-67). Tohyama does not teach a "U" shape groove. Indeed, Tohyama teaches away from using a U-groove. Tohyama teaches creating a *reverse mesa shape* as etched by wet etching. Please see drawing Figure 1B of Tohyama for how this reverse mesa shape looks and please note the indication of the angle  $\Theta$ . The drawing Figure 12B cited by the examiner depicts a deep diced groove as provided by a diamond blade, and not as wet or dry etched, nor is it a U-groove either.

A §102 "anticipation" rejection requires that a single reference teach (i.e., identically describe) each and every element of the rejected claim. That is, §102 anticipation requires that all of the elements and limitations of the claim are found within a single prior art reference. That is the unequivocal current and controlling view of the Federal Circuit. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983); Atlas Powder v. E. I. DuPont, 750 F. 2d 1569, 224 U.S.P.Q. 409 (Fed. Cir. 1984); Jamesbury Corp. v. Litton Industrial Products, 756 F.2d 1556, 225 U.S.P.Q. 253 (Fed. Cir. 1985); Carella v. Starlight Archery and Pro Line Co., 804 F.2d 135, 138, 231 U.S.P.Q. 644, 646 (Fed. Cir. 1986); and Davis v. Loesch, 27 U.S.P.Q. 2d 1440, 1445 (Fed. Cir. 1993), citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir.), cert. denied, 493 U.S. 853 (1989), "The identical invention must be shown in as complete detail as contained in the ... claim."

Tohyama fails entirely to teach "etching a U-groove via a dry etch in the semiconductor wafer" as is taught and claimed by the Applicants. Therefore,

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Tohyama fails as a §102 reference. Allowance of claim 1 is respectfully requested.

Claims 2-9 depend from a claim believed allowable and should therefore be allowable as well. Allowance of claims 2-9 is respectfully requested.

No additional fee is believed to be required for this amendment; however, the undersigned Xerox Corporation attorney authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

It is respectfully submitted that the present set of claims, as amended, are patentably distinct over the cited references. In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby requested to call the undersigned attorney at (585) 423-6918, Rochester, NY.

Respectfully submitted,



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December 17, 2004  
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